

Kirkbride (Thos. S.)

REMARKS

ON THE

CONSTRUCTION AND ARRANGEMENTS

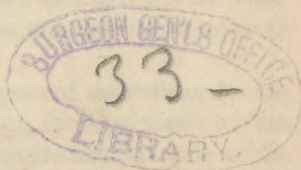
OF

HOSPITALS FOR THE INSANE.

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HOSPITALS FOR THE INSANE.

THE deep interest which, within a few years, has been manifested in the insane of this country, has necessarily led to inquiries as to the best mode of construction of buildings for their accommodation, and what constitutes the arrangements and conveniences most proper for an enlightened treatment of the malady.

So various have been the plans already adopted or suggested, that one entirely new can hardly be looked for, and if found, would almost surely lose in excellence, what it gained in novelty. It is rather by judicious combination of existing plans, and by advances in internal arrangement, that we are to expect perfection in these structures.

The important fact seems now to be pretty generally conceded—that it is very difficult for any one properly to plan a hospital for the insane, who has not had a practical acquaintance with the disease, been much with those suffering from it, and had ample opportunities of knowing the advantages and conveniences as well as the faults of existing establishments.

Scarce a hospital has yet been built, in which important changes have not been made or suggested, and where none have been made, it has often been, that the defects were of so radical a nature, that little encouragement was offered for attempting their removal.

For these reasons, most of the medical directors of institutions for the insane, have of late been frequently called upon for their views on the whole subject of location, construction and organization, as well as for detailed plans of what they believed to be essential to a good institution.

The remarks which follow are little more than what have been given in greater or less detail, on numerous occasions, to the individuals and corporate bodies who have honoured the writer by their inquiries, and in replying to which, he has felt it a privilege to be able to disseminate more widely any of the results of his own experience, which could tend to promote,

even in the slightest degree, the welfare of the insane, or the advancement of an enlightened public opinion relative to the disease and its treatment. The writer does not aim at novelty, nor make any special claim to originality, he proposes only to give some of his present views on certain branches of the subject,—the result of nine years' residence among the insane, in three different institutions, a tolerable acquaintance with the arrangements and peculiarities of most of the hospitals in the United States, and the immediate care of more than twelve hundred cases of insanity.

CHARACTER OF BUILDING.—In designing a hospital for the insane, reference should of course be had to the class of patients who are to use it, and to the means which are to be devoted to its support.

When expense is no object, and when everything that money can command is to be freely employed,—the style of building, the furniture, the fixtures, and the number of persons employed, may be widely different from one where strict economy is to be observed, and the expenditures to be regulated by the moderate means of a majority of those who resort to it for relief.

Although there is no reason why the rich should not be able to possess when insane, every reasonable gratification that their income can command, still, for the great mass of the community, a different state of things will be preferred; and most of our institutions, whether state hospitals or private charitable corporations, will be erected for the reception of all classes. It will therefore be understood that, in the remarks which follow, reference is made to these, as many of my views would be materially different if consulted in respect to an establishment in which, without regard to cost, the arrangements should all be of the best and most perfect kind, and the number of patients very limited.

There is good reason to doubt, whether, as a general rule, even the most wealthy would derive any essential advantage from resorting to small private establishments, got up in the most costly style. In most cases they would probably be better cared for, if the same style of accommodations were furnished them in connection with larger and more public institutions, either by having certain portions of them properly prepared for those who were able and willing to pay for them, or what would still be better, in some cases, by having cottages provided sufficiently near the main structure to render their supervision easy and perfect, and arranging in them all the apartments necessary for a comfortable home for those who have been accustomed to all the conveniences and even luxuries of life.

SITE.—Preparatory to the adoption of any plan of building, a suitable site is to be obtained, and too much care cannot be observed in its selection. A hospital for the insane should always be located in the country,

within a reasonable distance, however, of some town of respectable size, easily accessible by a good turnpike, or other road, or on the line of some railroad. If on an ordinary road, about two miles will be found a convenient distance;—if a railroad is used as an ordinary means of approach to the town, the distance may without disadvantage be considerably increased. There are many reasons why the means of communication between the hospital and town should be easy and good at all seasons, and facility of access by patients and their friends should never be forgotten in the location of such an institution.

The site should be healthy,—in a pleasant and fertile district of country,—the scenery should be of an agreeable kind,—the landscape should embrace as much as possible that is interesting, and the neighbourhood should possess attractive objects for the visits of the patients.

AMOUNT OF LAND.—The amount of land required will vary somewhat according to the extent and character of the institution. It is now generally conceded that the grounds formerly about some of our oldest and most distinguished institutions for the insane, were totally inadequate for the proper employment of an enlightened system of treatment for their patients. It is scarcely possible to err by securing too much land about such an establishment. Let its character be what it may, not less than fifty acres should be obtained, and where the institution is large, and likely to contain many patients accustomed to agricultural pursuits,—in any state hospital, for example, not less than one hundred acres of a good quality will be required, and in some instances the possession of more will be of advantage.

This land is required, not only to give a space about the hospital, which will secure its privacy,—furnish a large amount of its supplies, and one of the proper means of exercise for its patients in rambling over its pleasure grounds,—but also as a farm and garden, to provide a species of employment, which ample experience has shown to be, for some classes, superior to all others.

The grounds immediately about the site of a hospital, should always be of a character that will admit of their being ultimately placed in a high state of tasteful improvement.

SUPPLY OF WATER.—Among other requisites, an abundant supply of pure water, at all seasons, is one of the most important. It should be estimated that at least four thousand gallons will be used daily in a hospital containing 200 patients, and provision should be made for forcing this amount into reservoirs in the highest part of the building, from which it can be readily distributed through the establishment.

It does not often happen that a steady water power, sufficient to raise this amount, is to be obtained, but when it can, it is perhaps to be preferred

to all other means. A steam engine, however, can be turned to such a great variety of useful purposes, about a large hospital, that where one is used, the absence of water power is scarcely to be regretted. Horse power will answer in smaller institutions, but it is a poor substitute for the regularity and efficiency of the steam engine.

DRAINAGE.—The spot for the building should always be such as to admit of a thorough system of underground drainage. This may be made to contribute wonderfully to the fertility and productiveness of the farm, as well as tend to promote essentially the comfort and health of the inmates of the hospital.

POSITION, SIZE, AND FORM OF BUILDING.—The site having been decided on, care is to be observed in locating the building, that its parlours and other rooms occupied by the patients during the day, should have the most extensive views and the most desirable scenery, and that every possible advantage may be derived from the prevailing winds of summer.

The form of building and its internal arrangements will next require attention, and these cannot fail to exercise a marked influence upon the character of the institution during the whole period of its existence.

Without wishing to enter upon details of external architecture, it may not be amiss to observe that the style which is adopted is really of much importance, and that while all extravagance or excessive ornament is to be avoided, a building for the purpose under consideration should always be in good taste,—appropriate for the locality in which it is placed, and calculated to produce a pleasing impression on all who see it. Such a building, like highly improved grounds, cheerful and clean wards, or any other objects of interest, exercise a most favourable influence on many of the insane. Everything prison-like, or repulsive in its character—so far as is consistent with a reasonable degree of security, is to be strictly avoided.

These buildings should be well and permanently built, and should as much as possible be secured from all danger from fire,—arching is to be preferred—but its expense will generally cause counter ceiling to be adopted, and in many respects, it answers sufficiently well. All the staircases should be of iron, and the roof should be copper, tin, or slate.

Hospitals may, without disadvantage, be of different sizes, according to the class of patients who are received; as where a majority of the inmates are incurable and confined only for comfort and security, it is obvious that the number might be double that of an institution where none but supposed curable cases are admitted. The best plan, I have no doubt, however, is that where curable and incurable are alike received, and the arrangements such as to prevent any injury arising from their being in the same building.

State institutions will generally have a larger proportion of incurables,

than hospitals more private in their character, and in which the higher rate of board renders them less resorted to as permanent abodes for the insane; on this account they may commonly be larger without inconveniences sufficient to counterbalance the economy which results from such an arrangement.

The number, in my estimation, however, should never be greater than will permit the chief medical officer to see each patient at least once every day. To do this properly would require all the energies of any ordinary man, if three hundred and fifty patients were collected in one state institution; two hundred and fifty I should consider a better number, and in more private corporate hospitals, two hundred should be considered the maximum. A much smaller number, even with a full corps of the best assistants, may give ample occupation to any one really interested in promoting to the utmost the welfare of his patients. The mental and physical labour constantly required of the superintendent of an institution for the insane, renders it highly important that his usefulness should not be impaired, as has not rarely been the case, from attempting more than he can properly perform, without injury to his own health.

It is true that the wants of the community, in reference to provision for the insane, have not yet been properly appreciated in any part of the United States. There has scarce a single institution been erected to which in a short time it has not been found necessary to make important additions, and even with these the necessity for others is yet apparent. Still an addition to the number of hospitals may be much better than great increase of size.

Let the size adopted be what it may, proper apartments are required for the resident officers of the institution, and for the family of its medical superintendent,—for all the domestic operations of the house, and those engaged in carrying them out, and for the comfortable accommodation of at least five, (preferably of seven), distinct classes of patients of each sex. Each class will occupy a ward, and in, or connected with each ward, should be a parlour, a dining-room, a clothes-room, a bath-room, a water closet, a corridor with chambers on one or both sides of it, an associated dormitory, rooms for two attendants, so that one may always be present with the patients, a stairway, a dumb waiter, and a funnel for soiled clothes, dust, &c., leading to the basement story. The only exception is, perhaps, in the wards occupied by the lowest class of patients, where parlours may be dispensed with.

Special provision should also be made for the worst class of patients, that is, for the very noisy, violent and filthy, and for those whose complete isolation on any other account, is particularly desirable.

Lofty buildings are very objectionable for the insane, but a desire to combine economy with convenience, will probably lead to a general preference for a plan embracing a basement with two principal stories for the

parts intended for the patients, and perhaps an additional story for those occupied by the officers and others employed about the establishment. This height I consider the greatest that ought ever to be adopted.

For hospitals of the kind under consideration, and of the size already referred to, (from 200 to 350 patients,) a central building, with wings running at right angles to it, is probably, upon the whole, the best arrangement.

This should be considered the basis of the establishment, and buildings of less elevation, and somewhat detached, be looked to as the filling up of the plan, or for any future extension that may be required.

The number of patients that may without disadvantage, be in one ward, will vary essentially, according to their mental condition;—of the quiet, or incurable, twenty-five may not be objectionable, while of the excited, particularly if under treatment, one-half of that number would be the greatest that should be together. The fewer of such patients are together, the easier they are managed, and small communities, in an insane hospital, have always appeared to me to have the most comfortable appearance.

In arranging the form just referred to, great care should be observed, that every part has a light and cheerful appearance, and that every possible advantage is derived from natural ventilation.

The point where a wing joins the central building, or where one wing comes in contact with another, running at right angles to it, is commonly the darkest, most cheerless, and worst ventilated part of such an establishment. These defects, however, are easily obviated by leaving on each side, where the wings touch the centre building, an open space, eight or ten feet wide, with large windows from the floor to the ceiling, which may either be accessible to the patients, or very open ornamental wire-work, on a line with the corridor, may give nearly all the advantages of light, air, and prospect, without interfering with other uses to which it may be appropriated; and instead of allowing a second wing to come directly against the first, if it is placed parallel with it, but falling back just far enough to allow the corridor to be entirely clear at both extremities, and these fitted up with large windows, coming near the floor, they will always be pleasant, and all the advantages be enjoyed, that can be derived from ordinary ventilation.

In corridors like these last, when they are occupied by a class of patients, that it may be thought desirable to prevent coming in immediate contact with the end windows, an exceedingly good and tasteful arrangement may be made by separating a few feet from the window, by means of the very open, but strong wire work already referred to, and filling this space with evergreen and flowering plants. These will offer no material obstruction to the air and light, and the effect of such things upon every class, is always favourable.

The basement of the building should be a comparatively low story, one

step above the level of the surrounding ground, the ceilings of the other stories to be occupied by the patients, should be twelve feet high—the parlours should be large and cheerful rooms—the chambers for a single patient, not less than eight by ten feet, nor the corridors less than twelve feet wide. Large rooms are always pleasant about a hospital, and a use can generally be found for them, but if a properly regulated system of forced ventilation is adopted, the size of rooms and the number placed in them is really of much less importance than under any common arrangement.

Where parlours are provided, and the wings arranged as suggested above, I see no objection to having the chambers of a large hospital, at least in the main structure, placed on both sides of the corridors, and there are certainly the advantages of cheapness of construction, and a less extended building to recommend this arrangement. If the corridors are used as substitutes for parlours, then there are obvious reasons for the lodging-rooms being placed only on one side.

All the contrivances for generating heat, whether by furnaces, or other means, and all the space for the storage of fuel, should be in the cellar.

In the basement of the centre building may be the kitchen and scullery, with all the appropriate fixtures,—a dining-room for officers, and another for domestics,—a store room,—a receiving room for patients,—a sitting-room for the matron, and a lodging-room for one of the officers, or some other responsible person.

In the first story above, will be required a parlour, a general business-office,—the physicians' office and library,—and one or two rooms for the visits of persons to patients. These being in front, there may be in the rear, two large rooms for other purposes, as for associated dormitories, or for sick patients. In the second story of the centre, should be apartments for the family of the superintending physician, entirely private,—and on this or the story above, the chambers of the other officers, and such persons as it may be desirable to place in that position. In the rear of the second story, may be a large room for collecting the patients, either for religious worship, for lectures, or any other purpose.

In the top of the centre building should be the tanks for holding two days' supply of water, from which it should be distributed through every part of the hospital.

In the basement of the wings, next the centre, on the side occupied by the female patients, may be lodging-rooms for the female domestics, two work-rooms for patients, and at the extreme end, the washing, drying, and ironing rooms. On the men's side, the chambers of the hired males, two work-rooms for male patients, and at the extreme part, the bakehouse and bakers' room. In the basement of the second or extended wing, to which a passage on the side of the first leads, may be apartments for one of the lowest class of patients, (the fifth.)

The two upper stories of the wings will be entirely occupied by the wards and accommodations for the four best classes of patients of each sex.

The collecting room, referred to above, may conveniently occupy the position there assigned to it, and thus situated, it has the advantages which always attend a location in the centre building—great facility of access and supervision, and a centralization of the operations of the house. The same reasons apply for the locality given to the kitchen, the bake and wash rooms, &c.,—but if preferred, all these may be placed in a separate building, a little in the rear of the main structure. Advantages as well as disadvantages attend the first mentioned plan, although a proper arrangement of the original structure, and the erection of suitable flues will obviate the objections usually made to these rooms being placed in a central position. Convenience of access to the work-shops adds vastly to their usefulness, and on this account it is desirable that at least some of them should be easily reached from the wards, so that patients may go to them and return as frequently as may be thought desirable.

The rooms for patients when very ill, should be at least one for each sex, should be large and airy, in a quiet part of the house—have ample means for ventilation, all the conveniences for the proper care of the sick, and, as far as may be, easy of access to the officers and nurses.

ASSOCIATED DORMITORIES.—Associated dormitories have been referred to as desirable in each ward for a portion of the patients—but the number I should recommend to be thus provided for, is much smaller than has recently been suggested by high authority. It is an important question how far they should be adopted in new institutions. So far as it can be done with advantage to the patients, there is much economy in the arrangement.

After carefully looking over the patients under my own care within a few years past, I am convinced that about one-fourth of the whole might lodge in associated dormitories, without disadvantage,—that about one-third of this number, or one-twelfth of the whole, would be benefited by this arrangement, and that three-fourths of the total number would do better, and be more contented in single rooms. The classes benefited, are the timid—those who fear being alone—and a portion of the suicidal, who require constant watching. To derive full advantage from such rooms, they should always have an attendant in them, or the attendant's room should be immediately adjoining, with an opening from it into the dormitory; and to obtain complete security, an attendant should always be awake, and in a position from which he could completely overlook the whole room.

The habits of our people make them generally averse to common lodging-rooms, and a majority of those under my care, would have the same objection to them in a hospital, as they would in a hotel or common board-

ing-house. With others this objection would not exist, and, as already observed, with some few there would be positive advantages more than sufficient to counterbalance all objections.

There is no novelty in the use of associated dormitories in this section of country. They were in constant use in the oldest institution for the insane in the United States, the Pennsylvania Hospital in the city of Philadelphia, for more than twenty years before the removal of that class of patients to the new buildings, and so far as I have learned, without serious accident of any kind, although the supervision there was far from being perfect. These associated lodgers, indeed, enjoyed a species of liberty that would now scarcely be accorded to any class in a well-conducted institution, and although with all these additional sources of risk, from 10 to 20 out of 100 patients, lodged together in large rooms, for so many years without any injury,—yet the impression made on those who managed that noble charity was so little favourable to the arrangement, that when they put up a new edifice, single rooms were adopted almost exclusively. One room for from three to ten patients in connection with each ward, will, beyond doubt, be convenient and useful.

HEATING AND VENTILATION.—One of the most important matters for decision, preparatory to the erection of any hospital, is the mode of heating and ventilation.

My own observations have satisfied me that pure fresh air, warmed very moderately, and introduced in large quantities into every part of the building, is the only mode which ought to be adopted, or which can give permanent satisfaction. Connected with this, must be the means for a forced ventilation—means to expel with certainty, an adequate quantity of foul air. No other plan can prove really efficient, and by attempting any other, we are only endeavouring to persuade ourselves that we have ventilation, when, at times at least, there is really none.

Whatever contrivance warms the fresh air in sufficient quantities to a moderate degree, most efficiently, and at the smallest cost, is the best, and steam at a low pressure, will probably be found most desirable for all large institutions. The ventilation must be forced either by fans, or an upward current produced by heat, the last of which seems most generally available, and requires less constant attention.

In addition to what is forced, every precaution should be taken to have full advantage of a natural ventilation, particularly in summer, when windows and doors can be freely opened, and when certain states of the atmosphere, and certain velocities of the wind, will render it very efficient. It cannot be depended upon, however, even in summer, as a steady or effectual means of replacing foul air by that which is fresh. In all the institutions I have ever seen, the radical, and generally insuperable error has been made of constructing all flues, whether for the admission of warm

air, or the exit of foul, entirely too small,—generally not more than one-fourth of the proper size for the first, and for the last, so diminutive as to render them really useless. It is, therefore, always best to make the flues very large, as the size of the openings are easily regulated, and they will determine the amount of air passing through the flues.

WINDOWS.—Of the various forms of windows that have been proposed, the neatest, and at the same time a perfectly secure one, is that generally used in the wings of the Pennsylvania Hospital for the Insane. Both sash are of cast iron, of a very light appearance, each having ten lights, six by fifteen inches. They are hung in a frame cased with iron, balance each other so as to be moved with ease, and as one rises the other falls, but only to the extent of six inches—or not sufficient to allow the escape of a patient. With this form of window, all bars, extra sash and screens are dispensed with, the appearance is precisely like that of a wooden sash, and it never produces unpleasant feelings in the patients.

A much cheaper form of window, and one which in some respects is preferable, is that which has been adopted in the additions just made to the north lodge of the same institution, and which has been substituted for the other in some parts of the main hospital. In this window the upper sash is of cast iron, as in the former; it is hung with weights, and rises and falls six inches. The lower sash is of wood, of the same pattern, and moves its whole extent. Opposite this last is placed externally a light ornamental wrought iron screen, protecting enough of the space to prevent a person escaping, and not producing any disagreeable effect on the appearance of the building. Upon the whole I consider this the best form of window for the rooms of a hospital for the insane. When a forced ventilation is used, and it is not cared to lower the upper sash, the whole arrangement is much simplified and the expense diminished, by screwing the upper iron sash fast to the frame, and depending for air wholly upon the wooden or lower sash, the cords of which are completely concealed; and this is the form which, at my suggestion, is to be used in the New Jersey Hospital. If the screens are got up with good taste, complete security may be obtained, and the general effect be perfectly good.

When, in order to give a proper architectural effect, to a centre building for example, the windows are very large, they may be very neatly secured, by using inside shutters, the upper half being permanently closed, and on the outside of the lower half, fastening an ornamental screen of either wrought or cast iron. Windows of this kind in the Pennsylvania Hospital for the Insane are three feet ten inches by nine feet ten inches, with glass thirteen by twenty-seven inches, and cast iron has been used with good effect. The light in the rooms is ample—really giving the large parlours, thirty-six by twenty feet, with ceilings nearly nineteen feet high, a more comfortable air than with the glare generally present before this arrangement

of shutters was adopted. This plan, of course, admits of glass of any size that is desired, and all the sash may be of wood.

Windows in the patients' rooms are apt to be made too small, and to be placed too high from the floor, either to look well or to be pleasant to those who are inside of the building.

Where iron sash is used, it will be found very convenient in glazing, particularly in the upper stories, if the putty is placed on the inside instead of the outside of the window; glass will frequently be broken, and to replace it from the outside is often a matter of no little difficulty.

No inside protection at all is required to most of the windows. In each ward, however, it will be found convenient to have one or two, with a light wire netting stretched over a properly made frame, which should be hinged and secured by a spring lock. In the lower wards, more of these may be necessary, and a few may have a close strong shutter, either hung like the former, or made to slide upwards, or downwards, or sideways, as may be most convenient. In the lowest ward may be a few very strong rooms in which the external window is small, admitting only a moderate amount of light and air—while internally provision is made for inspecting the condition of the patient, and ample ventilating arrangements specially provided.

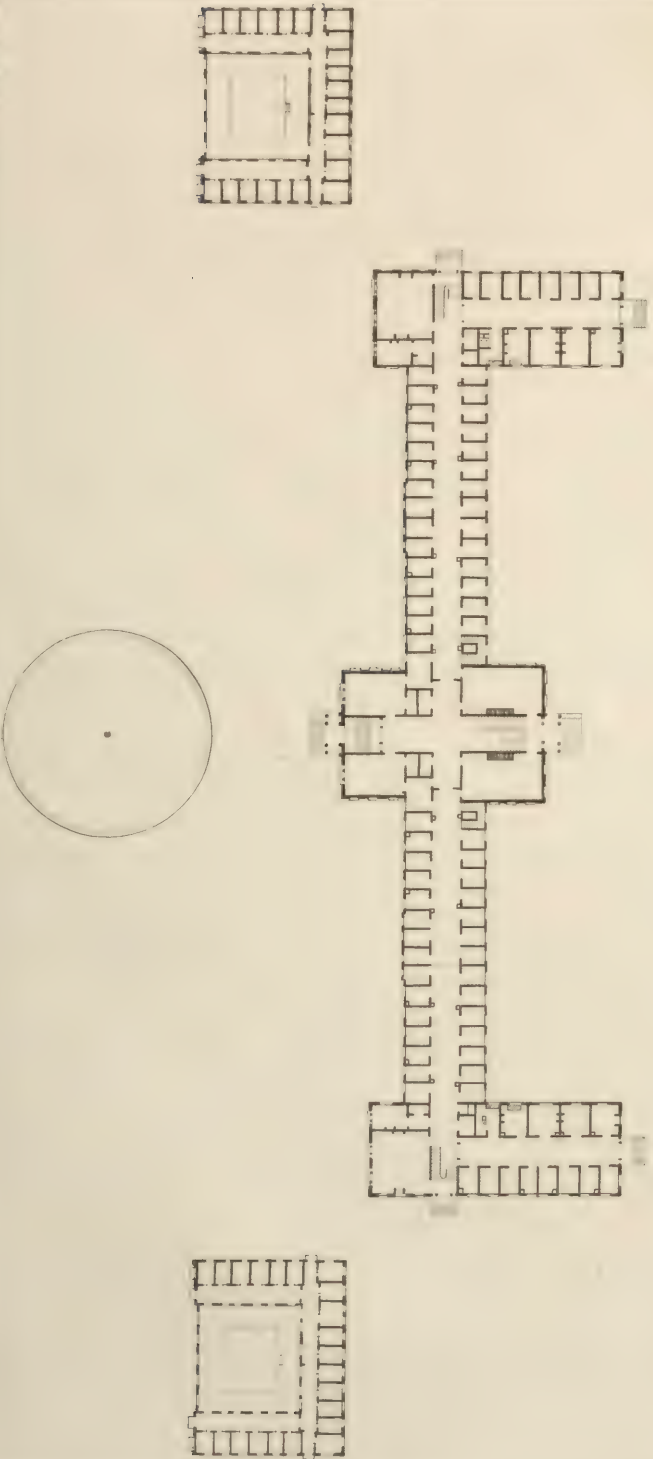
DETACHED BUILDINGS.—The best provision that can be made for every class of patients, that is particularly annoying to those about them, whether from great noise, filthy habits, or from exerting a pernicious moral influence of other kinds, is in detached buildings, at a short distance from the main structure, with which, as a matter of convenience, they may be connected by means of a covered way. These buildings should not be at so great a distance as to make any difficulty in supervision, which is required for these classes more directly and constantly than for all others—and care should be taken in locating them, that their position is such as to derive every possible advantage from a slight removal. Such buildings should be of one story, and if erected on three sides of a hollow square, with an open pallisade in front, will be found very convenient, as giving great advantages for the care and treatment of at least two distinct classes of troublesome patients. The inner part should be made as cheerful as possible, the corridors with an abundance of windows being on that side, and chambers on the outer side only. In the arrangement of these rooms, several should be provided shut out from all sources of excitement from without, and with easy supervision from within. The enclosed space should be paved, and be constantly accessible to the patients.

The Pennsylvania Hospital for the Insane was without any such provision when first opened, but its want was so sensibly felt, and so obvious to every one, that, at my suggestion, the Board of Managers directed the present lodges to be put up during the year 1841. Their general plan is

that suggested above, and their form and position will be understood by reference to the accompanying ground-plan of that institution. It will be observed that they project from the main front, which is owing to the other side of the principal structure being most public, and the ordinary side of approach. In most cases, they would be placed on the rear—and always on that side which is most private. Each of these affords accommodations for eighteen patients and three attendants, one of whom is always present; has two distinct classes in them; a dining hall, bath-room, water-closet, &c.; as marked on the plan they are thirty-one feet, north and south of the main building, but additions now being made, will bring them in contact with it. Their rear is only a few feet in advance of the front of the principal structure. They have now been regularly in use during nearly five years, are always full, and their importance to the comfort, quiet, and usefulness of the establishment, cannot be too highly estimated. On this point there is no difference of opinion among all who have had opportunities of becoming familiar with them; and experience has clearly demonstrated that the objections that by some were thought likely to arise, do not exist in practice. To prevent misinterpretation, it may not be amiss to remark, that in my estimation a small structure, for only one or two patients at a great distance, or without an attendant always present, should never be tolerated in connection with any establishment for the insane. The location of the lodges of the Pennsylvania Hospital for the Insane, makes them just as easy of access to the officers and others, as any position where such patients would be placed in a main structure, and the annoyance of that proximity is so little, as not to compare with its great advantages. It is not to be supposed that any spot can be selected whence some noise may not be occasionally heard, but it is much better to have this, than to incur the risks that would certainly attend a position where it would always be prevented from reaching the main building.

Commonly, two or three patients excite, if they do not make most of the noise and disturbance, even among the noisy class, and it is often desirable that rooms for this number, of each sex, should be provided, in connection with the lowest ward, or with one part of a detached building, so arranged, upon a short lateral passage, for example, that they may be still more effectually separated. One great advantage of detached buildings, properly arranged, in our experience has been, that permanent seclusion of the insane, with its many serious evils, is almost entirely obviated.

FIXTURES AND INTERNAL ARRANGEMENTS.—One general principle should be adopted in providing these, as indeed in most other provisions for the insane—they should be as nearly like what would be desirable for the sane, as is compatible with their treatment, and furnishes a reasonable degree of security. Security must be obtained—but, it is all important that it be with the least possible degree of restraint, either in reality



PLAN OF THE PRINCIPAL STORY
Pennsylvania Hospital for the Insane.

or in appearance. In the wards for the better classes, therefore, the furniture may be good, and varied according to the character of the institution and the patients who are received into it. In the lower wards, where violence is more common—everything should be stronger—but it should be strength without anything offensive in the manner of obtaining it. Locks and bolts, when required, should be as much as possible out of sight, and move without noise; the best bath-tubs are made of cast iron, and these are easily secured to the floor; fixed marble basins are capital substitutes for those that might be improperly used; towels and their rollers, may be prevented from being moved, and so with nearly everything required for comfort; a little care and ingenuity will enable even the worst class of patients to be surrounded with them.

Fixtures and contrivances that have an unusual, or disagreeable, or prison-like appearance, are as far as possible to be banished from the wards of a hospital for the insane. Some of them may, in rare cases, really be useful, or seem to be; but it is far better occasionally to suffer some inconvenience from the want of them, than to risk the bad moral influence which their presence is likely to exert, not only on the patients, but surely, although almost imperceptibly, on those who have the care of them. It is vastly more to the interests of the insane, that those who have charge of them should use their ingenuity in devising means for avoiding contrivances and fixtures, than in originating them.

PATIENTS' YARDS.—Small yards, as airing courts, for the different classes of patients are not desirable. When patients go out to walk, as very nearly all should do regularly, it should be into the open fields, and their exercise should be much more active, and continued for a longer period than it is likely to be in the small spots, often left for the purpose in immediate proximity to an institution. Patients who cannot or will not walk, would probably spend most of their time lying on the ground, and these will be found much better off, more comfortable and neater in their appearance, by being in large airy corridors and parlours. If any yards are used, they may be few in number,—should be of large size,—well shaded with trees, and have a good dry pavement around them. They will then be occasionally used with advantage, by some who desire greater privacy than they could otherwise obtain, and be of service in weather when the fields are too wet for comfortable walking. Dry or at least paved walks for wet weather are always desirable.

PERMANENT ENCLOSURES.—Many advantages result from the pleasure-grounds of a hospital being permanently enclosed by a wall of sufficient elevation to prevent persons from without intruding upon its privacy—giving security to many of the improvements, and at the same time keeping a large number of patients from wandering from the institution. High

walls, however, around small enclosures, and in full view from the building, are worse than none. The grounds, if thus enclosed, should always be large, and the wall so built, as in a large part of its extent to be completely out of sight from the hospital. Natural facilities for doing this are often found, and where they are not, it is easy in most situations to have a sunk wall so arranged as to be perfectly effectual, and not be an objectionable feature.

At the Pennsylvania Hospital for the Insane, the pleasure-grounds contain more than forty-one acres, and are surrounded by a wall averaging ten and a half feet in height. It is more than a mile in extent, and of all this, but a very small portion is seen from the building. No one speaks of it as a prison enclosure; and its advantages in protecting the institution from intrusion from without, (which is always the great value of a wall,) enlarging the liberty of a majority of the patients, and doing away with the disadvantages which result from proximity to a large city, are so obvious to all who have seen much of it, that no portion of the expenditures are looked upon with greater satisfaction.

Most of the views contained in the present essay were given to the commissioners of New Jersey, when consulting me relative to the details of an institution for that state, which should combine economy in the cost of first construction and subsequent management—ease of supervision, perfect classification of its patients, and all the requirements for their efficient treatment. The general plan and the form of building which I suggested were subsequently adopted, and will be found embraced in the designs by John Notman, Esq., of Philadelphia, the accomplished architect of the hospital, and who is superintending its erection.

The accompanying plate,* showing the general plan and form of that building on the ground, is introduced here, as illustrating many of the arrangements referred to in the preceding pages, and as a specimen of a good form for a state institution.

The plan is that of the first principal story—the basement below it being elevated three steps from the general ground level. The height, including the basement, is three stories, except the centre and projecting pavilions terminating the first range of wings on both sides, which are four stories. The cellars are under the whole. The basement story in the centre building contains a reception room for patients, officers and domestics' dining-rooms, store-rooms, kitchen and scullery. In the first range of wings on either side are work-rooms for male and female patients, domestics' lodging-rooms, bake-house, washing, ironing and drying rooms. In the second range of wings are respectively the male and female violent patients' wards, at the extreme end of which are four rooms, on a lateral passage. Under

* From Pennsylvania Journal of Prison Discipline and Philanthropy, from which also the description is abridged.

SCALE, 70 Feet to an Inch

HOSPITAL FOR THE INSANE,

TRENTON, NEW JERSEY.

Lith. of Sindler, Philad.

J. Notman, Architect.

South East Front.

First Story



the portico A, is a carriage way, to set down patients or others in severe weather.

In the first story, A is the portico; B, the entrance hall; C, the halls of centre and corridors of wards; D, the house parlour; E, general business room; F, room for visitors to patients; G, office of physician and library; H, are associated dormitories of different sizes, from two to eight beds, and intended to have an attendant either in or immediately adjoining them; I, stairs; K, dining-rooms; L, parlours; M, bath-rooms; N, water-closets; O, clothes-room, with funnel for foul clothes, &c., adjoining; P, passages between the wards; R, attendants' rooms; S, spaces, with large windows from the floor to the ceiling, for light and air. The others are single rooms for patients. In the second story of the wards the arrangements are similar. The front rooms of the centre are for the physician's family, and one for the assistant physician. The back part will be in one room for a chapel, lecture or general meeting room of the patients.

In the third story of the centre will be rooms for other officers, &c. In the third story of the pavilions may be infirmaries or associated dormitories. The single rooms are eight by ten feet and eleven high, the corridors are twelve feet wide, and the windows at the ends of them are of the entire width of that space. The wards will average twenty patients each, or two hundred for the whole building, with the proper officers and assistants.

"For warming the building it is arranged that the space in the cellar enclosed by the walls of the corridors in the whole length of the building, shall be a chamber, in which the air admitted at sundry points from the exterior, will be heated moderately from the surface of pipes containing hot water or steam circulated through them, and will be conducted in flues in the walls of the corridors, to all the rooms in each ward, and to the corridors at many points. For this purpose and for ventilation, there will be built a series of flues in all the extent of the walls of the corridors. The arrangements for ventilation are as follows:—A large flue or air-trunk is constructed at each end of the corridors, with partitions, so that each corridor will have an ascending or descending current, as the season and state of the atmosphere may demand. These air-trunks will terminate below in an air drain, which will again terminate at the necessary fire places of the establishment, or at points distant from those places, at fires provided for the purpose of burning the impure air. Above, the air-trunks will terminate in a shaft or chamber which forms an ornamental erection over the roofs of the pavilions central and extreme, and the impure air will be burned off at these points if forced action be necessary. Flues of ventilation from every room are connected with the main trunks; the regulation of the supply of fresh warm air, and the valves for ventilation are so proportioned that currents of air will be entirely avoided. By these arrangements it will be in the power of the managers to cool the air in the

chambers, and distribute it over the house in summer. A supply of water will come from the reservoirs in the dome of the centre building.

"The exterior will be in the simplest style of architecture. A Tuscan portico of six columns marks the centre and entrance. A boldly projecting cornice of the same style will be continued around the whole, yet its architectural effect will be good from its great size, the well-arranged advancing and receding disposition of the wings, the variety in height and the fine proportions of the several masses of building. The whole length is four hundred and eighty feet."

To render this establishment complete, however, would still require, in my estimation, the erection of detached buildings for about fifteen of the most noisy, violent and filthy of each sex, and this will be the proper mode of extension when the wants of the state require additional buildings. The proper location of these one-storied buildings, on three sides of a hollow square, would be a short distance from each extremity of the present hospital, and slightly in its rear. The open sides of them should be in the rear, and the front masked by clumps of evergreen trees, so as not in any way to interfere with the general effect and good appearance of the main structure.

To meet my views, therefore, of a complete state hospital, would be to adopt the general principles and form of the New Jersey institution, and to connect with it the lodges or detached buildings of the Pennsylvania Hospital for the Insane, with such improvements in detail, as experience has suggested.

The exterior of the New Jersey Hospital will be appropriate, and the whole will add to the high reputation of its architect. It is now nearly under roof, and it is believed that it will be completed in another year, for less than one hundred thousand dollars, which seems to be about the lowest sum for which a suitable structure for two hundred patients can be properly erected and furnished. Should the same liberal and enlightened views attend its progress, organization and maintenance, which have marked its commencement, it cannot fail to be highly creditable to New Jersey—a bountiful dispenser of the highest blessing to her afflicted, and an institution in which all her citizens may indulge in justest pride.

The marked advances which are now being made in the treatment of the insane, and in the architecture of hospitals for their use, must be truly gratifying to every philanthropist, and although there is still ample room for improvement, the several institutions now in progress of erection bid fair to be far superior to most of those that have preceded them. Public opinion, it is true, in most parts of our country, has not yet arrived at the true standard for fixing the degree of excellence which should belong to every institution, whether state, corporate, or private; a desire to have them cheaply built, cheaply furnished, and cheaply managed, without a

proper regard to excellence, is still too prevalent. These establishments, it is to be remembered, are generally to receive all classes. The best and most useful members of the community may require their aid as much and as often as the most wretched children of misfortune;—and even if all their inmates were the very poorest, humanity and good economy would equally counsel every provision that offered an additional chance for their restoration.

It will certainly be found by experience, in all these institutions, that true economy consists in avoiding waste of every kind, but at the same time using liberally every means which promises to promote the great objects for which they were constructed; and that hospitals which combine most excellencies with fewest defects, that are organized upon the most liberal scale, and offer most advantages to their patients, will be the cheapest in the end, be best appreciated by the afflicted and their friends, and ultimately give most satisfaction to any enlightened community.

PHILADELPHIA, *Nov.*, 1846.



